

PRACTICE SET

End Semester Examination, Spring- 2026

Program: Diploma

Semester: IV

Subject: Underground Coal Mining

Subject Code: 8DPCCMiE207

UNIT I

Section II (10 marks)

1. Compare hydraulic prop and friction prop and coin the term cog and cross bar with sketch.
2. Describe steel arches & safari support used for gallery roof support.
3. Enumerate the various types of support used in underground with proper sketch.
4. Discuss about wooden prop and give dimension & diameter of prop.
5. Describe the principle of roof bolting with sketch.

Section III (20 marks)

6. Enumerate the similarities & contrasts between hydraulic prop and friction prop.
7. Describe the different types of roof bolts. Also write the advantages and disadvantages of roof bolt.

UNIT II

SECTION II (10 marks)

8. Mention the basic methods of coal mining. State in brief the Bord and Pillar as well as Longwall methods of underground coal mining.
9. State in brief the factors influencing choice of Bord & Pillar coal mining methods.
10. State the advantages and disadvantages of Bord and Pillar System of coal mining.
11. Elaborate the three development methods of Bord & pillar method with a neat sketch.
12. Discuss about SDL & LHD used in Bord & Pillar mining for removal of coal.
13. Describe the depillaring methods of Bord & pillar mining in underground coal mines.

Section III (20 marks)

14. Assume that coal deposit is opened up by underground mining method. Discuss in brief the applicability conditions and advantages, disadvantages of Bord and Pillar of Underground coal mining.
15. Describe the method of calculation of percentage extraction in development in Bord & Pillar mining. A pillar size of (40*40) m, center to center has gallery width of 4m. Calculate the extraction % during development.

UNIT III

Section II (10 marks)

16. Define the terms:
 - i. Main gate
 - ii. Tail gate
 - iii. AFC

- iv. Goaf
 - v. Shearer
17. Describe in brief the advancing & retreating longwall method of coal mining.
 18. Describe the basic elements of longwall face layout. State the factors influencing the layout of longwall faces.
 19. Describe about longwall mining method with a neat layout.
 20. Describe the advantages and disadvantages of longwall retreating method of coal mining.
 21. Sketch well labelled diagram of Longwall advancing & Longwall retreating method of coal mining.

Section III (20 marks)

22. What is the applicability condition of Longwall working? Write its advantages and disadvantages of long wall working method.
23. Design an underground longwall mining layout with all the terminology & both method of extraction techniques.

UNIT IV

Section II (10 marks)

24. Describe the preventive and protective measure to be taken on surface in subsidence area.
25. Define subsidence. What are the different types of theories of subsidence?
26. Describe with sketch the Arch/ Dome theory of subsidence.
27. Sketch & explain the terms:
 - a.) Subsidence profile
 - b.) Angle of draw.
28. What are the precautions to be taken on surface in subsidence area?
29. Enumerate the different factors affecting subsidence in mining areas.

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Disclaimer: - This is a practice set. The Question in End term examination may differ from the practice set. This practice set is meant for practice only.